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Urban adolescent sexual and reproductive health in low-income and middle-income countries

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ABSTRACT

One of the most important aspects of adolescent health is sexual and reproductive health (SRH). Currently, sexually transmitted infections (STIs) threaten the health of adolescents more than any other age group, and as many as 2.2 million adolescents are living with HIV. Understanding adolescents' SRH needs and how to invest in improving their health can be best addressed by knowing more about the contexts that increase their vulnerability to poor sexual health outcomes. Recent evidence has highlighted an increasingly marginalised segment of the adolescent population—and that is the urban poor adolescent population in low and middle income countries (LMIC). Using an urban health framework, this paper examines the contextual factors within an urban community that influence the SRH of adolescents in LMIC. Findings show that while there is substantial research that has explored factors within the social environment, there is limited research that has explored factors within the physical environment, as well as research that has specifically explored urban adolescents' use of SRH services and how such services can be best provided to this vulnerable population. This paper highlights the need for further research to understand the relationships between the urban poor environment and the SRH risks that adolescents face while living in such environments.

INTRODUCTION

Ninety per cent of the 1.2 billion individuals aged 10–19 in the world today live in low and middle income countries (LMIC). India is home to more than 243 million adolescents—more than any other country, followed by China, with around 200 million adolescents.[1] Sub-Saharan Africa, however, is the world region where adolescents make up the greatest proportion of the population, with 23% of the region's population aged 10–19 years. Despite these numbers, we still know less about adolescent health compared with the health of younger children. This may have to do with the relatively low mortality rates in this age group,[2] but adolescents are not free from disease and injury, and in recognition of this, the health and well-being of adolescents is now regarded as a key indicator of the health of a population.[2]

One of the most important aspects of adolescent health is sexual and reproductive health (SRH). The centrality of SRH to adolescent health in LMIC is truer today than at any time before because of the rising age at marriage that is occurring all over the world.[3] When the age of marriage increases, it also increases the period of time that young people spend in the sexually mature and unmarried state—a situation that is challenging for many traditional cultures.[4] While premarital sexual activity is not necessarily harmful in of itself, among adolescents, it is typically done without protection—and, as a consequence, they are faced with a longer period of risk exposure. Currently, sexually transmitted infections (STIs) threaten the health of adolescents more than any other age group.[5] As many as 2.2 million adolescents are living with HIV, among whom 60% are girls.[2] Girls aged 15–19 years are also twice as likely to die from pregnancy-related causes compared with women in their twenties, and girls aged 10–14 years are more than five times more likely to die.[6] The bulk of these fatal pregnancies occur among adolescents in LMIC (91%), with 40% occurring in Asia and the Pacific.[7]

Understanding adolescents' SRH needs and how to invest in improving their health can be best addressed by knowing more about the social contexts that increase adolescents' vulnerability to poor sexual health outcomes. Yet the majority of studies that have explored contextual influences of adolescent SRH have been conducted in industrialised countries.[8] A few recent studies, however, point to a growing vulnerable and increasingly marginalised segment of the adolescent population—and that is the urban poor adolescent population in LMIC.[9 10] For example, in table 1, we present the prevalence of early sexual debut in a number of LMICs for three groups: rural, urban poor and urban non-poor. For the vast majority of countries, the prevalence among the urban poor is closer to the prevalence in the rural areas and in some countries it is higher. A recent study that combined data from 51 LMICs around the world found that poor urban adolescents were more likely than their non-poor counterparts to marry early and were less likely to contracept if sexually active.[11]

This paper examines the influence of contextual factors on adolescent SRH behaviours in urban environments of LMIC. A brief literature search was conducted using multiple databases, including PubMed, PsycINFO, Scopus, JSTOR and the Interagency Youth Working Group (IYWG). We limited studies to those that were written in English and focused on the relationships between health and the physical and social environments as well as access to health services among urban residents.

We have structured this paper by first explaining why urban adolescents are increasingly vulnerable to negative SRH outcomes, and second, by examining the contextual factors related to SRH using an urban health framework put forth by Galea and Vlahov, and finally by identifying the key gaps in moving forward.[12] While this paper focuses on LMIC, in some instances, studies that were conducted in the

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Table 1 Sexually active before age 15 in selected DHS countries

	Rural (%)	Urban poor (%)	Urban non-poor (%)
Benin	14.3	16.0	8.3
Bolivia	10.3	9.7	3.4
Burkina Faso	8.1	8.7	4.9
Cameroon	25.7	25.1	12.5
Columbia	14.5	14.4	8.8
Congo (Brazzaville)	29.3	22.6	17.8
Congo Democratic Republic	23.1	18.6	11.4
Dominican Republic	18.5	20.1	8.2
Haiti	14.0	19.9	14.4
Honduras	13.5	17.1	5.9
India	12.7	10.9	2.6
Indonesia	10.0	4.8	3.3
Lesotho	8.1	13.2	6.6
Liberia	21.0	11.4	13.8
Madagascar	19.8	16.1	7.2
Malawi	15.0	16.3	10.7
Mali	28.4	22.9	18.5
Mozambique	33.2	31.7	19.3
Namibia	8.3	15.9	3.2
Nigeria	20.2	16.7	5.6
Senegal	16.1	8.0	4.3
Sierra Leone	31.0	26.9	15.2
Zambia	16.8	15.7	9.2

DHS, Demographic and Health Survey.

USA were discussed to point out the significant relationships that have already been found between factors within each of these contextual domains and the health of urban residents.

The increasing vulnerabilities of urban adolescents

According to Galea and Vlahov, "urbanization is likely the single most important demographic shift worldwide during the past century and in the new century and represents a sentinel change from how most of the world's population has lived for the past thousand years" (p.341).[12] In 1960, two-thirds of the world's population lived in rural areas; by 2030, 60% will live in cities. A disproportionate number of those migrating to urban areas are youth between the ages of 16 and 24 years.[13] Most of this growth is occurring in LMIC, with the most rapid pace of growth expected to occur in Sub-Saharan Africa and Asia.[14] The dramatic increase in urbanisation may lead to a re-emergence of the urban health penalty that characterised industrialised countries in the 19th century.[9 10 15] Recent evidence suggests that the health of urban populations may be quickly deteriorating, particularly among those in lower socioeconomic stratum.[9 16 17] This is particularly apparent when comparing SRH outcomes between urban and rural populations. For example, in virtually all of Sub-Saharan Africa, HIV prevalence is substantially higher in urban than rural settings.[18] Several studies in the slum developments of Nairobi and other cities in Sub-Saharan Africa have also found the urban poor to have riskier sexual behaviour compared with their non-urban counterparts with regards to earlier sexual debut, lower condom usage and more multiple partners.[19–21] Dodoo and his colleagues concluded that there was a unique impact of urban poverty that was influencing sexual risk behaviours.[19]

According to Galea and Vlahov, contextual influences on the health of urban dwellers may be divided into three broad categories: the physical environment, the social environment and the availability and access to health and social services.[12] Using this framework, we discuss how factors within an urban poor environment may contribute to the SRH of adolescents in LMIC.

The physical environment

The urban physical environment is broadly defined to include the built structures, the air and water, the indoor and outdoor noise, and the parkland inside and surrounding the city.[12] The associations between air quality, water quality, toxic exposures and health outcomes are easy to understand. In addition to these direct effects of the physical environment, however, scholars posit that physical disorder, such as deteriorating housing, graffiti and vandalism, increases residents' psychosocial distress, which then in turn increases adverse health outcomes.[22]

While there have been several studies documenting the relationship of the physical environment to respiratory conditions, injuries drug use, crime and obesity,[23–26] far fewer have examined the relationship of the physical environment to SRH, especially among adolescents in LMIC. In a recent review of the evidence about the association between the physical environment and child and adolescent health around the world, we only identified two studies that examined SRH outcomes; one was conducted on a US population, and the other among adolescents in Cape Town, South Africa. The US study found that, after controlling for absolute poverty, neighbourhood physical disorder (eg, run-down buildings, graffiti and garbage accumulation) was associated with prevalence rates of gonorrhoea, with the highest rates in neighbourhoods with both high levels of visible physical disorder and poverty.[27] The second study conducted in Cape Town examined the physical environment in relation to sexual risk and protective behaviours among adolescents. Accordingly, the authors developed a physical environment measure by using four commonly used municipal services: access to water, sanitation, electricity and housing quality. They found that with this measure the physical environment was significantly associated with sexual risk taking among adolescents: youth who scored high on the physical environment scale (meaning they had higher access to services) were much more likely to use a condom at last sex and have fewer sexual partners compared with those with lower scores, controlling for sociodemographic variables.[28] Another study, also conducted in Cape Town, highlighted the importance of unsafe recreational spaces for young women's perceptions on gender-based violence, although the authors did not examine SRH outcomes directly.[29]

The social environment

Unlike the physical environment, there is substantially more evidence on the relationship between the social environment and SRH outcomes among adolescents. Social capital, or the resources that inhere in people's relationships,[30] is a key factor in positive youth development.[31] The most important relationships adolescents have are with their parents. A plethora of studies from the industrialised world has established that adolescents who grow up with only one parent are at higher risk of early sexual debut, early pregnancy and early childbearing.[32] These effects go beyond the association of single parenthood with low levels of economic resources.[33] It is likely that the underlying mechanism that puts adolescents who grow up with a single parent at higher risk is household and family instability, rather than the single parent family configuration itself.[34] The research on family instability and SRH for adolescents in LMICs

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is in early stages, but the association has been found in Sub-Saharan Africa[35–37] and Latin America.[38]

A particularly pernicious form of family instability with a burgeoning research literature connecting it to SRH outcomes is orphanhood. Orphans, by definition, are children under the age of 18 years who have lost one or both parents[39] and, therefore, are deprived of the material, social and psychosocial support of one or more of their parents. Several studies now confirm that orphaned adolescents are at a significantly higher risk for HIV than their non-orphaned counterparts.[40–43] Female adolescent orphans, in particular, have been shown to be at a much higher risk for several different SRH outcomes, including sexually transmitted infections,[40 44] pregnancy,[41 45] early sexual debut[42 43 46] and transactional and forced sex.[42 43] It has also been observed that the prevalence of orphaned children in LMIC, especially Sub-Saharan Africa, is much higher in urban areas compared with rural areas, most likely because of the higher HIV prevalence in urban areas.[47]

Migrants are another distinct group whose SRH outcomes may be compromised by the lack of social resources from relationships. Adolescent migrants, even if they move with their parents, have their social networks in the place or origin disrupted and may find themselves isolated from the protective influences of social ties.[48] Most scholars agree that migrants are positively selected for good health and some aspects of the migration process can be protective.[49] Nevertheless, several studies have found that adolescent migrants—particularly poor migrants in the very large cities of LMICs—exhibit poor SRH outcomes.[48–52] One study that distinguished migrants according to their place of origin and time since migration found that migrants to slum areas from other disadvantaged settings did not experience better SRH outcomes than others, while migrants from more advantaged setting were only protected for a short time.[51]

In addition to parents, another important social capital domain for adolescents is the school environment. When comparing urban versus rural, not surprisingly, urban adolescents are far more likely to be in school compared with their rural counterparts in almost all countries.[53] When comparing sex differences across countries, the findings are more mixed between urban and rural adolescents. Girls in Sub-Saharan Africa are about 80–100% as likely as boys to be attending school if they live in urban areas, and 50–100% as likely if they live in rural areas. In some countries, however, such as Bangladesh, Nicaragua and the Philippines, girls are either near or above parity with boys in urban areas.[54] Keeping girls in school as long as possible has been found to be a significant protective factor against early sexual debut, early marriage and early childbearing in many countries.[44 53 55 56] For males, it is less clear. In some studies, male students are more likely be sexually active than non-students; at the same time, they are more likely to use condoms.[44 53 55]

Access to health services

In general, urban populations fare better than their rural counterparts in getting access to appropriate health services. The exception to this, however, is the urban poor, and particularly adolescents who are urban and poor. For adolescents, being able to seek SRH services—either from formal or informal sources—is a protective factor for their overall health and well-being. Yet, evidence from around the world shows that adolescents underuse such services for their needs and instead are much more likely to receive help for SRH problems from friends or family members. During the past two decades, a fairly extensive body of research has been published that has outlined some of the major barriers that adolescent face for seeking SRH services in formal healthcare facilities. In LMIC, one of the biggest barriers is that such services are simply not available for young people—especially those who are unmarried. Restrictive laws or policies, such as on providing contraception to unmarried adolescents, may prevent adolescents from seeking any SRH services.[57] Even where such services are available, they might be inaccessible to adolescents for a variety of reasons, including costs, distance, inconvenient hours and lack of visibility.[58] For example, there have been several studies that have examined adolescents' STI treatment seeking behaviour. The majority of these studies show that adolescents opt first for self-treatment or in Sub-Saharan African countries, go to traditional healers.[59 60] The most common reasons given for not seeking any treatment for STIs were 'shame', 'did not feel it was necessary', 'financial problem' and 'heals automatically'.[59]

While most of the literature on adolescents' access to health services has not distinguished between urban versus rural, other research has shown that in many settings the urban poor are just as disadvantaged as the rural poor—and in some cases, even worse. In India, for example, the 2005/2006 National Family Health Survey revealed that women living in slums were significantly less likely to use modern family planning compared with women living outside the slums.[61] Another study conducted in India found that there was a much higher percentage of unmet need for family planning among women in the urban slums compared with those in non-slum areas or those who were of higher socioeconomic status.[62]

Recommendations for moving forward

It is clear that the SRH among urban adolescents in LMIC is no better than rural adolescents and may even be worse. Using an urban health framework, we highlighted the importance of considering three categories of contextual factors in relation to adolescent SRH: the physical environment, the social environment and access to health services. Based on the literature to date, the biggest gap we identified is research that has examined the relationship between the physical environment and adolescent SRH. Surprisingly, this has been virtually ignored by adolescent health researchers. In a recent qualitative study among urban poor adolescents across five cities, one of the most dominant themes that emerged was the importance of the physical environment in relation to adolescent health. Across all study sites adolescents characterised their communities as 'dirty', 'overcrowded', 'dangerous' and 'polluted', and described multiple ways in which the physical environment contributed to their poor health.[63] Further research needs to be conducted in urban settings of LMIC, especially as it relates to specific aspects of the physical environment and SRH outcomes.

Turning to factors within the social environment, we observed that there has already been substantial research conducted—more than any other area—on the relationships between social resources and SRH among urban adolescents. Specific subpopulations of urban adolescents who lack such needed social resources have already been identified, namely, orphans and young migrants, and their increased risk to negative SRH outcomes has been widely documented. One domain within the social environment that may offer urban poor adolescents a strong protective influence against negative SRH outcomes is the school, and particularly for adolescent girls, there is substantial evidence to show how staying in school as long as possible keeps them from engaging in unsafe sexual practices.

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Finally, although healthcare access is widely believed to be much better for urban populations as opposed to rural, for the urban poor—and particularly the urban poor who are adolescents—this assumption needs to be challenged. There is a large body of literature that has documented the numerous barriers that adolescent face when seeking healthcare services—particularly from formal healthcare facilities. While these studies have not compared urban versus rural adolescents, there are other studies conducted among adults of reproductive age that have shown that the urban poor are at greatest need. For the growing number of urban poor adolescents in LMIC who are at great risk of SRH problems, identifying appropriate channels for reproductive healthcare provision is of utmost need.

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